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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,385	06/13/2001	Satsuki Tsukuda	56087 (70551)	5189

21874 7590 07/14/2005

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EXAMINER
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BATTAGLIA, MICHAEL V

ART UNIT	PAPER NUMBER
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2652

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/880,385	TSUKUDA ET AL	
	Examiner	Art Unit	
	Michael V. Battaglia	2652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 April 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-20 is/are pending in the application.
- 4a) Of the above claim(s) 7-17 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3 and 19 is/are allowed.
- 6) ☒ Claim(s) 1 and 4 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 18 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

*Claim Rejections - 35 USC § 102*

1. Claims 1 and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Ohkuma et al (hereafter Ohkuma) (US 6,480,460).

In regard to claim 1, Ohkuma discloses a tilt correction method of a movable portion (Figs. 1, 2, 6 and 7, element 11) for correcting tilt of said movable portion caused when said movable portion is moved in a direction orthogonal to a longitudinal direction of an elastic supporting member (hereinafter referred to as an orthogonal direction), comprising: said movable portion being connected to a fixed portion (Figs. 1, 2 and 4-7, element 14) by a plurality of elastic supporting members (Figs. 1 and 2, elements 13a-13d and 15) and displaceably arranged in said orthogonal direction (Figs. 1 and 2, element Fcs and Fig. 7, element H), each of said plurality of elastic supporting members having at least one bent portion (Fig. 4, element 41), wherein the tilt of said movable portion is corrected by varying expansion/contraction amounts of said bent portions of said plurality of elastic supporting members caused when said movable portion is moved in said orthogonal direction (Col. 4, lines 19-51; Col. 7, lines 61-64; and Col. 9, lines 20-41). It is noted that the orthogonal direction is orthogonal to a longitudinal direction of an elastic supporting member when the angle between elastic supporting member and vertical front surface of the fixed portion is  $\theta$  as shown in Fig. 7 (Col. 8, lines 50-57).

In regard to claim 4, Ohkuma discloses an objective lens driving device (Figs. 1 and 2) for an optical disk (Col. 1, lines 9-14) including a movable portion (Figs. 1, 2, 6 and 7, element 11) holding an objective lens (Fig. 1, element 11c), a fixed portion (Figs. 1, 2 and 4-7, element 14), and a plurality of elastic supporting members (Figs. 1 and 2, elements 13a-13d and 15) connecting said movable portion and said fixed portion and elastically supporting said movable portion in a

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manner displaceable at least in a focus direction (Col. 6, lines 16-18), wherein each of said plurality of elastic supporting members has at least one bent portion (Fig. 4, element 41), comprising correction control means (Fig. 4, element 41) for controlling tilt of said movable portion caused when moved in the focus direction by adjusting deflections of said bent portions of said elastic supporting members arranged in parallel in the focus direction to cause expansion/contraction of said elastic supporting members in a direction offsetting a moment produced from deflection of said elastic supporting member (Col. 4, lines 19-51; Col. 7, lines 61-64; and Col. 9, lines 20-41).

*Allowable Subject Matter*

2. Claims 3 and 19 are allowable over the prior art of record. None of the references of record alone or in combination suggest or fairly teach a tilt correction method of an objective lens for an optical disk for correcting tilt of a movable portion caused when moved in a focus direction, comprising: said movable portion holding said objective lens, a fixed portion, and a plurality of elastic supporting members connecting said movable portion and said fixed portion for elastically supporting said movable portion in a manner displaceable at least in the focus direction are being provided, wherein said elastic supporting members each have at least one bent portion bent approximately in the focus direction, and said bent portions of said elastic supporting members arranged in parallel in the focus direction are adjusted to cause expansion/contraction of said elastic supporting members in a direction offsetting a moment produced from deflection of said elastic supporting member.

3. Claims 5, 6, 18 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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In regard to claim 5, none of the references of record alone or in combination suggest or fairly teach an objective lens driving device for an optical disk including a movable portion holding an objective lens, a fixed portion, and a plurality of elastic supporting members connecting said movable portion and said fixed portion and elastically supporting said movable portion in a manner displaceable at least in a focus direction, wherein each of said plurality of elastic supporting members has at least one bent portion, comprising correction control means for controlling tilt of said movable portion caused when moved in the focus direction by adjusting deflections of said bent portions of said elastic supporting members arranged in parallel in the focus direction to cause expansion/contraction of said elastic supporting members in a direction offsetting a moment produced from deflection of said elastic supporting member, wherein each said elastic supporting member has at least one bent portion bent approximately in the focus direction for adjustment of deflection.

In regard to claim 6, none of the references of record alone or in combination suggest or fairly teach an objective lens driving device for an optical disk including a movable portion holding an objective lens, a fixed portion, and a plurality of elastic supporting members connecting said movable portion and said fixed portion and elastically supporting said movable portion in a manner displaceable at least in a focus direction, wherein each of said plurality of elastic supporting members has at least one bent portion, comprising correction control means for controlling tilt of said movable portion caused when moved in the focus direction by adjusting deflections of said bent portions of said elastic supporting members arranged in parallel in the focus direction to cause expansion/contraction of said elastic supporting members in a direction offsetting a moment produced from deflection of said elastic supporting member, wherein two of said plurality of

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elastic supporting members are arranged in parallel approximately in the focus direction and are symmetric about a surface perpendicular to the focus direction.

In regard to claim 18, none of the references of record alone or in combination suggest or fairly teach a tilt correction method of a movable portion for correcting tilt of said movable portion caused when said movable portion is moved in a direction orthogonal to a longitudinal direction of an elastic supporting member (hereinafter referred to as an orthogonal direction), comprising: said movable portion being connected to a fixed portion by a plurality of elastic supporting members and displaceably arranged in said orthogonal direction, each of said plurality of elastic supporting members having at least one bent portion, wherein the tilt of said movable portion is corrected by varying expansion/contraction amounts of said bent portions of said plurality of elastic supporting members caused when said movable portion is moved in said orthogonal direction, wherein said bent portions are bent approximately in the orthogonal direction.

In regard to claim 20, none of the references of record alone or in combination suggest or fairly teach an objective lens driving device for an optical disk including a movable portion holding an objective lens, a fixed portion, and a plurality of elastic supporting members connecting said movable portion and said fixed portion and elastically supporting said movable portion in a manner displaceable at least in a focus direction, wherein each of said plurality of elastic supporting members has at least one bent portion, comprising correction control means for controlling tilt of said movable portion caused when moved in the focus direction by adjusting deflections of said bent portions of said elastic supporting members arranged in parallel in the focus direction to cause expansion/contraction of said elastic supporting members in a direction offsetting a moment produced from deflection of said elastic supporting member, wherein said bent portions are bent approximately in the focus direction.

*Response to Arguments*

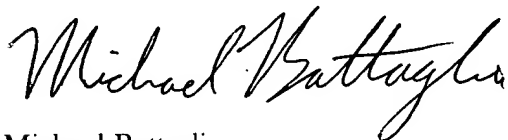
4. Applicant's arguments with respect to claims 1 and 4 have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

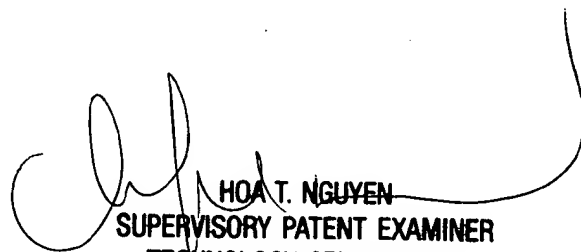
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V. Battaglia whose telephone number is (571) 272-7568. The examiner can normally be reached on 5-4/9 Plan with 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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7/11/05